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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/580,648	05/30/2000	Asif Dawoodi Gandhi	2925-0380P	1505

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EXAMINER	
MILLER, BRANDON J	

ART UNIT	PAPER NUMBER
2683	11

DATE MAILED: 10/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/580,648	Applicant(s) GANDHI ET AL.	
	Examiner Brandon J Miller	Art Unit 2683	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 July 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 May 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Response to Amendment

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-4, 7-8, 11-15, and 19-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Redden in view of Home.

Regarding claim 1 Redden teaches a method for controlling access of a subscriber station to a wireless communications system (see col. 2, lines 66-67 and col. 3, lines 1-4). Redden teaches obtaining a first performance indicator and a second performance indicator for a reverse link associated with a subscriber station seeking access to the wireless communication system (see col. 12, lines 57-65 and col. 13, lines 60-67). Redden teaches establishing a blocking threshold value based on the measured second performance indicator (see col. 13, lines 60-67 and col. 14, lines 1-6). Redden teaches deciding whether to inhibit access to the subscriber station seeking access to the wireless communications system based on the first performance indicator and the obtained blocking threshold (see col. 12, lines 60-67 and col. 14, lines 1-6 & 30-32). Redden does not specifically teach deciding whether to grant or deny access to the subscriber station seeking access to the wireless communications system based on a comparison of a first performance indicator to the obtained blocking threshold. Home teaches deciding whether to grant or deny access to the subscriber station seeking access to the wireless

communications system based on a comparison of a performance indicator to the obtained blocking threshold (see col. 12, lines 41-43 & 63-67 and col. 13, lines 1-8). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the invention adapt to include deciding whether to grant or deny access to the subscriber station seeking access to the wireless communications system based on a comparison of a first performance indicator to the obtained blocking threshold because this would allow for improved system performance in a wireless communication system.

Regarding claim 2 Redden and Home teach a device as recited in claim 1 except for denying access to a subscriber station if a performance indicator exceeds a blocking threshold value to prevent degradation of performance of the wireless communication system. Home does teach denying access to a subscriber station if a performance indicator is less than a blocking threshold value to prevent degradation of performance of the wireless communication system (see col. 12, lines 41-43 and col. 13, lines 5-8). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device to include denying access to a subscriber station if a performance indicator exceeds a blocking threshold value to prevent degradation of performance of the wireless communication system because this would allow for flexibility in providing improved system performance in a wireless communication system.

Regarding claim 3 Redden and Home teach a device as recited in claim 1 except for granting access to a subscriber station if a performance indicator is less than or equal to a blocking threshold. Home does teach granting access to a subscriber station if a performance indicator is greater than or equal to a blocking threshold (see col. 12, lines 41-43 and col. 13, lines 1-4). It would have been obvious to one of ordinary skill in the art at the time the invention

was modify the device to include granting access to a subscriber station if a performance indicator is less than or equal to a blocking threshold because this would allow for flexibility in providing improved system performance in a wireless communication system.

Regarding claim 4 Redden and Home teach a device as recited in claim 1 except for obtaining an interference rise over a thermal noise floor as a first performance indicator and loading as a second performance indicator with the interference rise over a thermal noise floor being a ratio of total reverse link power received by a base station to thermal noise power in a receive band and loading indicating how much each subscriber station contributes to interference. Redden does teach obtaining an interference rise as a first performance indicator (see col. 12, lines 15-23 & 57-62) and loading as a second parameter (see col. 13, lines 60-62). Redden does teach the interference rise being transmitting on a traffic channel without receiving assignment of a transmission channel (see col. 12, lines 15-19). Redden does teach loading indicating how much each subscriber station contributes to interference (see col. 13, lines 45-48). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the invention adapt to include obtaining an interference rise over a thermal noise floor as a first performance indicator and loading as a second performance indicator with the interference rise over a thermal noise floor being a ratio of total reverse link power received by a base station to thermal noise power in a receive band and loading indicating how much each subscriber station contributes to interference because this would allow for efficient access control of a plurality of subscriber units in a wireless communication system.

Regarding claim 7 Redden teaches a loading estimate that includes interference contributions from subscriber stations in a subject cell and interference contributions from subscriber stations in other surrounding cells (see col. 12, lines 15-20 and col. 13, lines 44-48).

Regarding claim 8 Home teaches dynamically adjusting the blocking threshold value based on a loading estimate of a base station and at least one metric reflecting performance of active subscriber stations using resources of a base station (see col. 2, lines 13-20, col. 4, lines 48-50, and col. 10, lines 28-31).

Regarding claim 11 Redden and Home teach a device as recited in claim 4 except for refining the adjustment of the blocking threshold value with reference to at least one additional performance parameter in addition to the interference rise and the loading if the loading on the wireless communications system exceeds a predetermined triggering threshold. Redden does teach obtaining an interference rise as a performance indicator (see col. 12, lines 15-23 & 57-62). Home does teach refining the adjustment of the blocking threshold value with reference to an additional performance parameter in addition to the loading if the loading on the wireless communications system exceeds a predetermined triggering threshold (see col. 2, lines 13-20 & 34-37). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the device adapt to include refining the adjustment of the blocking threshold value with reference to at least one additional performance parameter in addition to the interference rise and the loading if the loading on the wireless communications system exceeds a predetermined triggering threshold because this would allow for efficient access control of a plurality of subscriber units in a wireless communication system.

Regarding claim 12 Redden teaches a method for controlling access of a subscriber station to a wireless communications system (see col. 2, lines 66-67 and col. 3, lines 1-4). Redden teaches establishing a relationship of loading levels in area of coverage (see col. 13, lines 60-67). Redden teaches measuring an actual loading level on cell associated with a subscriber station seeking access to a wireless communications system (see col. 13, lines 44-48). Redden teaches determining a corresponding a blocking threshold value based on the actual measured loading level with reference to the established relationship (see col. 13, lines 64-67 and col. 14, lines 1-6 & 30-32). Redden teaches measuring an interference rise for the reverse channel of the subscriber station (see col. 12, lines 15-18). Redden teaches deciding whether to inhibit access to the subscriber station seeking access to the wireless communications system based on the first performance indicator and the obtained blocking threshold (see col. 12, lines 60-67 and col. 14, lines 1-6 & 30-32). Redden does not specifically teach loading levels on a coverage area of a base station, establishing a relationship of a blocking threshold value to loading levels in area of coverage, or deciding whether to grant or deny access to the subscriber station seeking access to the wireless communications system based on a comparison of a first performance indicator to the obtained blocking threshold. Home teaches loading levels on a coverage area of a base station (see col. 4, lines 48-50 and col. 12, lines 15-17). Home teaches establishing a relationship of a blocking threshold value to loading levels in area of coverage (see col. 15-21 & 41-45). Home teaches deciding whether to grant or deny access to the subscriber station seeking access to the wireless communications system based on a comparison of a performance indicator to the obtained blocking threshold (see col. 12, lines 41-43 & 63-67 and col. 13, lines 1-8). It would have been obvious to one of ordinary skill in the art at the time the invention was made to

make the invention adapt to include loading levels on a coverage area of a base station, establishing a relationship of a blocking threshold value to loading levels in area of coverage, and deciding whether to grant or deny access to the subscriber station seeking access to the wireless communications system based on a comparison of a first performance indicator to the obtained blocking threshold because this would allow improved system performance in a wireless communication system.

Regarding claim 13 Redden and Home teach a device as recited in claim 2 and is rejected given the same reasoning as above.

Regarding claim 14 Redden and Home teach a device as recited in claim 3 and is rejected given the same reasoning as above.

Regarding claim 15 Redden and Home teach a device as recited in claim 4 and is rejected given the same reasoning as above.

Regarding claim 19 Redden and Home teach a device as recited in claim 12 except for a loading level that is estimated according to the equation in claim 19. Home does teach a loading level that is estimated according to an equation (see col. 12, lines 15-35). Even though Home does not specifically teach the equation as recited in claim 19 it would have been obvious to one of ordinary skill in the art to modify the equation to include an equation as specifically recited in claim 19 because this would allow for a wireless communication system to maintain a specific level of performance according to a desired interference measurement.

Regarding claim 20 Redden and Home teach a device as recited in claim 12 except for a loading level that is estimated according to the equation in claim 20. Home does teach a loading level that is estimated according to an equation (see col. 12, lines 15-35) Even though Ishikawa

does not specifically teach the equation as recited in claim 20 it would have been obvious to one of ordinary skill in the art to modify the equation to include an equation as specifically recited in claim 20 because this would allow for a wireless communication system to maintain a specific level of performance according to a desired interference measurement.

Regarding claim 21 Redden teaches a method for controlling access of a subscriber station to a wireless communications system (see col. 2, lines 66-67 and col. 3, lines 1-4). Redden teaches a reverse-link performance measurer for measuring a signal performance parameter associated with the reverse link transmission of the subscriber station (see col. 13, lines 44-52). Redden teaches a loading detector for detecting the loading level of the channels served (see col. 13, lines 46-48). Redden teaches a database for storing a desired relationship of a desired signal performance value to a desired loading level (see col. 13, lines 60-67). Redden teaches deciding whether to inhibit access to the subscriber station seeking access to the wireless communications system based on the measured performance parameter and the detected loading level to the desired relationship (see col. 12, lines 60-67 and col. 14, lines 1-6 & 30-32). Redden does not specifically teach a blocking manager deciding whether to grant or deny access to the subscriber station seeking access to the wireless communications system based on a comparison of measured performance parameter and the detected loading level to the desired relationship. Home teaches deciding whether to grant or deny access to the subscriber station seeking access to the wireless communications system based on a comparison of measured performance parameter and the detected loading level to the desired relationship (see col. 12, lines 41-43 & 63-67 and col. 13, lines 1-8). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the invention adapt to include a blocking manager deciding

whether to grant or deny access to the subscriber station seeking access to the wireless communications system based on a comparison of measured performance parameter and the detected loading level to the desired relationship because this would allow for improved system performance in a wireless communication system.

Regarding claim 22 Redden teaches a performance parameter that includes an interference rise level estimate from granting access of the subscriber station to the wireless communication system (see col. 12, lines 14-17 and col. 14, lines 1-3).

Regarding claim 23 Home teaches a loading level that represents a ratio of active channels of a base station to available channels of a base station (see col. 4, lines 48-50 and col. 12, lines 15-21).

Claims 5-6, 9-10, and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Redden in view of Home and H'mimy.

Regarding claim 5 Redden and Home teach a device as recited in claim 1 except for obtaining a reverse link frame error rate and dropped call rate to modify a value of a blocking threshold. Home does teach modifying a blocking threshold (see col. 2, lines 14-16). H'mimy teaches reverse link channel assignment (see col. 2, lines 30-34) and obtaining a bit error rate (see col. 5, lines 24-26). H'mimy teaches obtaining a dropped call rate (see col. 5, lines 27-33). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the invention adapt to include obtaining a reverse link frame error rate and dropped call rate to modify a value of a blocking threshold because this would allow for adjustable access control in a wireless communications system.

Regarding claim 6 Redden and Home teach a device as recited in claim 1 except for a blocking threshold range defined by a maximum blocking threshold, and a minimum blocking threshold, which are determined based on estimated variation in the reverse frame error rate associated with a subscriber station. Home does teach a blocking threshold range defined by a maximum blocking threshold, and a minimum blocking threshold, which are determined based on estimated variation available traffic channels associated with a subscriber station (see col. 12, lines 41-43 and col. 13, lines 1-8). H'mimy teaches a variation in the frame error rate associated with a subscriber station (see col. 5, lines 23-27). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the invention adapt to include a blocking threshold range defined by a maximum blocking threshold, and a minimum blocking threshold, which are determined based on estimated variation in the reverse frame error rate associated with the subscriber station because this would allow for adjustable access control in a wireless communications system.

Regarding claim 9 Redden, Home and H'mimy teach a device as recited in claim 5 and is rejected given the same reasoning as above.

Regarding claim 10 Redden and Home teach a device as recited in claim 1 except for relaxing a blocking threshold to allow more subscriber stations to access a wireless communication system if a reverse link frame error rate and a dropped call rate indicate an acceptable level of performance. Home does teach dynamically adjusting a blocking threshold to allow more subscriber stations to access a wireless communication system (see col. 2, lines 13-20). H'mimy teaches reverse link channel assignment (see col. 2, lines 31-34) and obtaining a bit error rate (see col. 5, lines 24-26). H'mimy teaches obtaining a dropped call rate (see col. 5,

lines 27-33). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the invention adapt to include relaxing a blocking threshold to allow more subscriber stations to access a wireless communication system if a reverse link frame error rate and a dropped call rate indicate an acceptable level of performance because this would allow for adjustable access control in a wireless communication system.

Regarding claim 16 Redden, Home, and H'mimy and Ishikawa teach a device as recited in claim 5 and is rejected given the same reasoning as above.

Regarding claim 17 Redden, Home, and H'mimy teach a device as recited in claim 12 except for measuring a reverse frame error rate of a reverse channel and a dropped call rate at a base station through which a subscriber station seeks access, or temporarily increasing the previous value of the blocking threshold for use in a deciding step if a measured reverse frame error rate is less than a nominal reverse frame error rate by more than a specified amount and if a measured dropped call rate is less than a nominal dropped call value by more than a specified amount. Home does teach adjusting the previous value of the blocking threshold for use in a deciding step if the measured performance indicator is less than a nominal value by more than a specified amount (see col. 2, lines 13-15, col. 12, lines 41-43, and col. 13, lines 1-8). H'mimy teaches measuring a reverse frame error rate and a dropped call rate as a subscriber station seeks access to the wireless communication system (see col. 5, lines 24-35). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the invention adapt to measuring a reverse frame error rate of a reverse channel and a dropped call rate at a base station through which a subscriber station seeks access, and temporarily increasing the previous value of the blocking threshold for use in a deciding step if a measured reverse

frame error rate is less than a nominal reverse frame error rate by more than a specified amount and if a measured dropped call rate is less than a nominal dropped call value by more than a specified amount because this would allow for adjustable access control in a wireless communication system.

Regarding claim 18 Redden, Home, and H'mimy teach a device as recited in claim 12 except for measuring a reverse frame error rate of a reverse channel and a dropped call rate at a base station through which a subscriber station seeks access, or temporarily decreasing the previous value of the blocking threshold for use in a deciding step if a measured reverse frame error rate is greater than a nominal reverse frame error rate by more than a specified amount and if a measured dropped call rate is greater than a nominal dropped call value by more than a specified amount. Home does teach adjusting the previous value of the blocking threshold for use in a deciding step if the measured performance indicator is less than a nominal value by more than a specified amount (see col. 2, lines 13-15, col. 12, lines 41-43, and col. 13, lines 1-8). H'mimy teaches measuring a reverse frame error rate and a dropped call rate as a subscriber station seeks access to the wireless communication system (see col. 5, lines 24-35). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the invention adapt to include measuring a reverse frame error rate of a reverse channel and a dropped call rate at a base station through which a subscriber station seeks access, and temporarily decreasing the previous value of the blocking threshold for use in a deciding step if a measured reverse frame error rate is greater than a nominal reverse frame error rate by more than a specified amount and if a measured dropped call rate is greater than a nominal dropped call

value by more than a specified amount because this would allow for adjustable access control in a wireless communication system.

Applicant's arguments with respect to claims 1-23 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Talarmo U.S Patent No. 5,790,938 discloses a method for controlling a subscriber station in a mobile radio system.

Bhatia U.S Patent No. 6,112,101 discloses load based priority for a mobile subscriber.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brandon J Miller whose telephone number is 703-305-4222. The examiner can normally be reached on Mon.-Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on 703-308-5318. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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October 14, 2004

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